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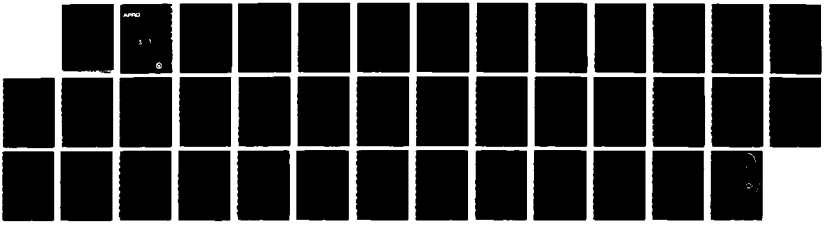

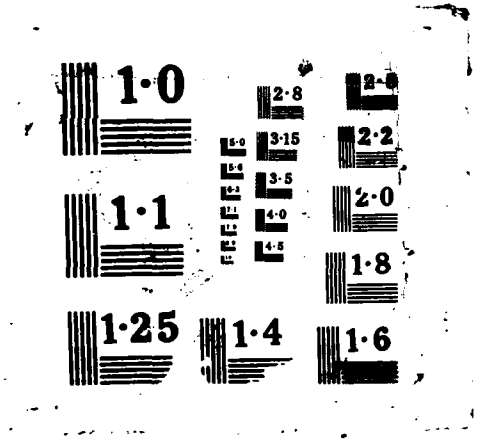
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ELECTRONIC BULLETIN BOARDS FOR CONTRACTING

by

CPT JOHNATHAN PAINTER

JUNE 1987

Information and data contained in this document are based on input available at the time of preparation. This document represents the view of the author and should not be construed to represent the official position of the United States Army.

The pronouns "he", "his", and "him", when used in this publication, represent both the masculine and feminine genders unless otherwise specifically stated.

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Fort Lee, Virginia 23801-6045

EXECUTIVE SUMMARY

A. **BACKGROUND.** Automation technology offers an opportunity to improve the flow of information between the government and its contractors.

Mr. Vorhies (E-Systems, Inc.) has suggested the use of electronic telecommunication services as a means of improving the flow of information during the procurement process. This study evaluates that suggestion.

B. **STUDY OBJECTIVES.** The study objectives are:

1. Determine if it is feasible to develop and employ these telecommunication services in the initial procurement process.

2. Determine if it would be useful to use these services within the procurement process.

3. If appropriate, make recommendations on possible future testing.

C. **STUDY APPROACH.**

1. Evaluate the availability of present day telecommunication services and determine if these services could be provided to the US Army procurement community.

2. Examine the present methodology/standard operating procedures in the procurement process and determine which areas are best suited for these services.

3. Examine presently employed "automated" procurement systems and determine their acceptability.

D. **SUMMARY AND CONCLUSIONS.** The automated procurement systems in use at different offices throughout the different services (with more being added daily) indicate an acceptance of this type of service. The concept is feasible and worthy of testing.

E. **RECOMMENDATIONS.**

1. That these telecommunication services be tested for use with government procurements.

2. That the actual test be conducted by one of the more "automated" buying commands.

3. That the test involve at least three procurements, one in each of the following areas: (1) hardware, (2) service, and (3) research and development and that it start prior to the development of the draft request for proposal.

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CHAPTER I

INTRODUCTION

A. BACKGROUND.

Timely, free flow of information between buyer and seller has historically been a problem in government procurement actions. Since there is the requirement to make information available to an individual, a group within a single location or a group across the nation, in a timely manner, it is very important that the government consider taking advantage of the latest communication technology. Present day communication technology will allow the user to gain better and faster access to expertise and work closely with distant associates while spending less time and money on travel.

Figures 1 and 2 illustrate how the total procurement actions accomplished and the total dollar value of these actions have continued to increase within the U.S. Army over the past ten years. By using these ten years of historical data and simple linear regression it is projected that there will be approximately 6.5 million procurement actions in 1995. If only the most recent five years of data are used, a more conservative estimate of 5.5 million action will be forecasted for 1995. This steady increase in the total procurement workload over the past ten years and the projected increase in the future indicates a need to streamline all possible areas in the initial procurement process and insure fast, efficient and meaningful dialogue between the government and supplier.

In a recent Army Competition Conference (26 June 1986), the need for incorporating present day electronic telecommunication technology into the procurement process was highlighted. One of the panel members (Mr. H. W. Vorhies of E-Systems, Inc.) presented a paper suggesting the use of electronic bulletin boards (EBB), electronic mail service (EMS) and on-line terminal

U.S. ARMY PROCUREMENT

TOTAL ACTIONS

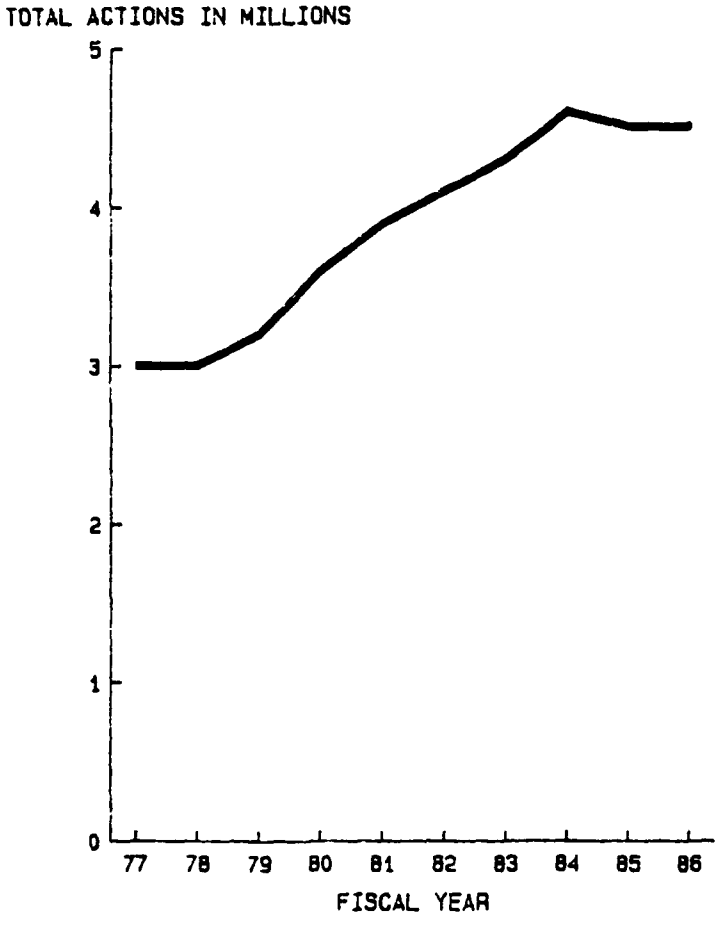

FIGURE 1

TOTAL DOLLARS

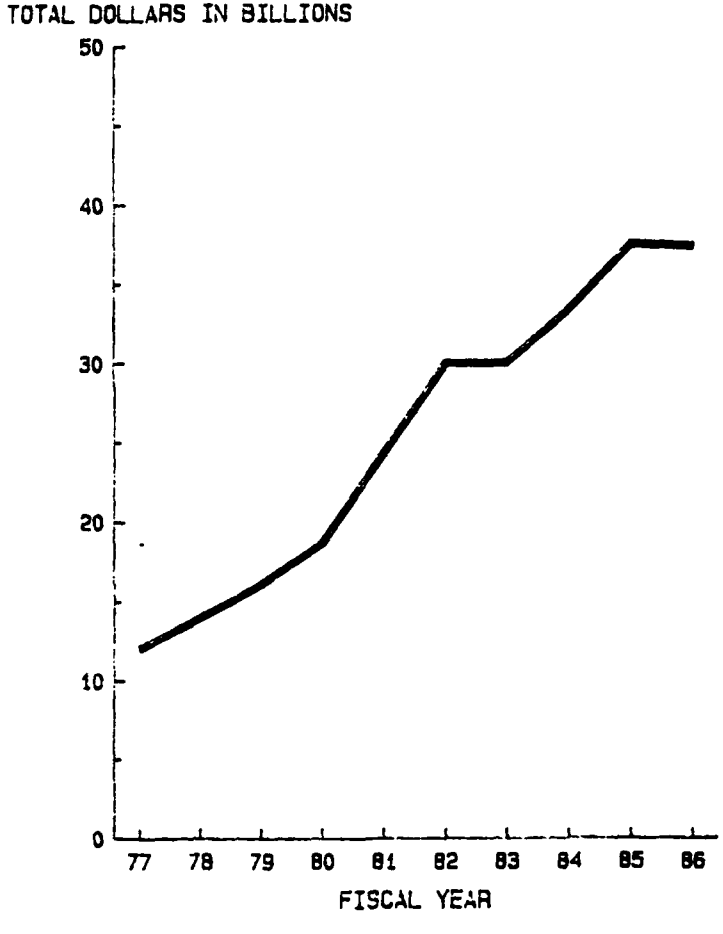

FIGURE 2

conferencing as a means of upgrading the flow of information between the Government and the contractors. All three of these are electronic telecommunication services that allow the users to have immediate access to information. The EBB allows information to be "posted" electronically by the providing office/activity and accessed by the user. This information can be copied and printed out at the user's office for later use. The EMS allows information to be sent from one office to one or more different offices. This is an interactive service where information can be copied, updated and sent to more offices as needed. The on-line terminal conferencing is the same as the EMS except that it also allows the users to hold meetings, with all or only some of the users, and discuss ongoing projects or procurements. The following are the main ideas taken from Mr. Vorhies' paper.[1]

1. Establish an EBB to allow equal and faster access to contractual information for all potential contractors.

2. Establish EMS between bidder and contracting officer to allow faster two-way communications.

3. Establish private on-line terminal conferencing among Army procurement players [i.e., Project Manager (P.M.) contracting officer, contracting officer's technical representative, TRADOC system manager, DA system coordinator and the Competition Advocate] to allow them to keep abreast of ongoing procurement actions.

4. Provide the Request for Proposal (RFP) in summary or full text (when possible) to potential contractors by EBB and EMS.

5. Provide pre-bid information to potential contractor by EBB and EMS.

6. Allow questions and answers between contractors and contracting officers by EBB and EMS.

7. Contract out the telecommunication services.

8. Test on three procurements (hardware, service and research and development).

9. Establish telecommunication service nets during the draft RFP stage (with an observer/evaluator net set up).

10. Involve Competition Advocate General (CAG), Judge Advocate General (JAG), Information Systems Command (ISC) and industrial associations in evaluations.

Mr. Vorhies suggests that these telecommunication services be tested as an alternative to pre- and post-solicitation bidders conference and formal correspondence techniques used in complex procurements.

B. STUDY OBJECTIVE.

The objective of this study is to determine the feasibility and usefulness of employing EBB, EMS and on-line terminal conferencing in the initial procurement process and to make recommendations on possible future hardware/software testing.

C. STUDY APPROACH.

This study addressed the feasibility and usefulness of using these telecommunication services in the initial procurement phase. To answer these questions it first had to be determined if these telecommunication services could be provided to the U.S. Army by private contractors (companies providing these types of services) or with in-house DOD resources.

The next step in the study was to survey government contractors as to the usefulness and acceptability of these services. The present operating procedures of solicitations, proposals and evaluations for RFPs were examined to determine which areas are best suited for these services and which areas

have "shortcomings" that can be corrected by these telecommunication services. After these actions were accomplished, the proposed uses and limitations of these electronic communication services were evaluated.

Present and planned electronic procurement "communication" systems were studied to determine their developmental processes and to evaluate their acceptability at both the government users and the contractor users levels.

The final step of the study was to evaluate the feasibility of developing and employing these telecommunication services within the initial procurement phase.

The study team consisted of one operations research (OR) analyst from the Army Procurement Research Office (APRO) and two procurement analysts, one each from Army Materiel Command (AMC) and the Corps of Engineers (COE).

D. ORGANIZATION.

This report is divided into six chapters. Chapter I gives the introduction and background of the study. It also provides study objectives and the approach taken. Chapter II presents an overview of the present procedures used in formal procurement actions and explores areas or steps where electronic communication services would be beneficial. Chapter III examines some of the current (and upcoming) automated electronic communication processes used in procurement. Chapter IV is an analysis of Mr. Vorhies' suggestion and issues surrounding the implementation and use of the electronic telecommunication services within the contracting arena. Chapter V is a discussion of the four different alternative ways to update the current procurement system and ensure that it continues to meet its growing workload. The conclusions, recommendations and implementation procedures are presented in Chapter VI.

CHAPTER II

DEVELOPMENT OF SCOPE

A. OVERVIEW.

Currently at most contracting offices throughout the U.S. Army the initial procurement phase is accomplished by a manual process. Most or all correspondence is accomplished by mailing (U.S. Postal Service) the hard copy of each correspondence to the contractors and waiting for the same process to receive the replies. This process is standard procedure in most contracting offices and is one area in which many believe time could be saved and the communication process improved. This slow process also has a tendency to inhibit the flow of information between the buyer and the supplier. If the communication process between buyer and supplier could be made faster and more open to accommodate the number of procurement actions processed each year, many efficiencies could be gained.

B. CURRENT PROCUREMENT PROCEDURES.

With the larger, more detailed buys, the process generally can be broken down into the following actions with the offices handling them.

OFFICE	ACTION
Contracting Office	Develop RFP
Contracting Office	Prepare synopsis
Contracting Office	Publish synopsis
Contractor	Read synopsis
Contractor	Request RFP
Contracting Office	Send RFP to potential offerors
Contractor	Read RFP
Contractor	Ask questions

Contracting Office	Staff questions
Contracting Officer's Team	Research questions and prepare answers
Contracting Office	Answer questions to contractor
Contracting Office	Issues amendments
Contractor	Prepare proposals
Contractor	Forward proposals to Contracting Office
Contracting Office	Contact/call together evaluation team
Evaluation team	Examine proposal and evaluate how well it meets requirements of RFP/solicitation
Evaluation team	Request clarifications
Contracting Office	Discuss clarifications and deficiencies with evaluation team
Contracting Office	Issue clarifications to corresponding contractor(s)
Contractor	Respond to clarifications/deficiencies
Contracting Office	Conduct discussions with individual contractor(s)
Contracting Office	Discuss offers with evaluation team
Contracting Office	Request best and final offers from qualifying contractor
Contractor	Submit best and final offers
Contracting Office	Evaluate best and final offers
Contracting Office	Notify Army officials of winner
Contracting Office	Award contract
Contracting Office	Notify all participating contractors of winner

This list is not intended to be an all-inclusive list of each small detail of the actions required during the procurement process - just a listing of the more important areas so as to give an indication where time could be saved. All of the steps or actions are an integral part of the procurement process

and help ensure that the customers get what they need at the time it is needed. The use of electronic telecommunication services should start with the draft RFP stage and continue until product delivery.

Within most of these current steps or actions there are periods of time that the contractor or contracting office has to wait for correspondence to be delivered. If these periods of "waiting" time could be eliminated or just reduced, it would greatly enhance the procurement process and make it more responsive to the customers' needs. Reducing the waiting time would help ensure real time responses to questions/problems in the procurement arena and increase the flow of information, questions, and answers between the government and the contractors.

Many people feel that most of these areas hold potential for time savings. The amount of time saving will vary between each action. Presently, some actions (sending RFPs, sending contractors' proposals and submitting best and final offers) may be too expensive or beyond current capabilities to accomplish, but should be possible as electronic communication technology grows. Areas where much time is spent waiting for replies and other types of information tend to offer the most potential for time savings and increase the flow of information between buyer and seller.

C. **SUMMARY.**

This list of actions and offices provides an indication of the many steps/actions within the complete procurement process where much time could be saved. It also shows where communication could be made more open - meaning better understanding between the Government and the contractors, better RFPs and contractor proposals, and ultimately better end products to the soldiers.

CHAPTER III

DISCUSSION OF CURRENT ELECTRONIC COMMUNICATION PROCESSES AND AUTOMATED CONTRACTING APPLICATIONS

A. INTRODUCTION.

During the past few years many "automated procurement systems" have been developed and implemented within today's Army contracting arena. Most of these new systems use some type of electronic communication procedures to transmit and receive requests for issues or buys and provide a complete audit trail on all transactions that take place. These new automated systems have increased efficiency and customer satisfaction in most areas in which they have been used.

There are also some automated systems that are still in the developmental stage and as of yet are unproven within the actual contracting or logistics day-to-day operations. These systems, both now in use and in the developmental stage, indicate that there is an acceptance of these types of automated electronic communications systems both on the government side and the contractor side of doing business.

B. SYSTEMS PRESENTLY IN USE.

A sampling of the automated systems presently in use include the following:

1. Paperless Ordering Placement System (POPS).

   POPS is an electronic interface between the Defense General Supply Center and commercial industry which enables the Supply Center to fill customer requisitions for commercial type items quickly and efficiently directly from vendor maintained inventories. This is in contrast with the traditional logistic system which requires large periodic procurement of inventories for storage at defense depots and the subsequent filling of customer requisitions from those stocks. Under POPS the vendor assumes the responsibility for inventory maintenance storage, shipping and handling. Savings from reduced inventory investment, second destination transportation costs and handling by DLA depots are passed on to the customer in the form of reduced standard unit price. By utilizing a computer to computer

connection and a single annual contracting instrument with the vendor, the Supply Center has improved performance in terms of delivery time and customer support while reducing the cost of operations substantially.[2]

2. Procurement by Data-Link Quotation System (PDQ).

PDQ is an attempt at expanding the POPS concept to allow the government (DGSC) to interface with smaller commercial organizations that do not possess a lot of systems expertise or systems resources, but who none the less support our procurement initiative by providing us a variety of Federal Supply Class items and manufacturers' parts. PDQ is able to support this simplified interface by providing asynchronous communications that require no vendor conversion program and which requires the contractor to possess a minimal amount of hardware, (i.e., a microcomputer, modem, and printer), and systems knowledge. Phase 1 of the PDQ project has been on-line since April of 1985, and it involves electronically issuing SASPS I BPA calls, as well as electronically receiving and posting vendor responses to these calls. The second phase of PDQ involves the electronic receipt and posting to SAMMS of SASPS II RFQ quotation data. Phase 3 of the project requires the development of an electronic bulletin board for the distribution of SASPS II RFQ information. And lastly, the fourth phase of PDQ calls for the development of a system to handle and process electronic invoices so as to promote a more efficient and timely means of processing this information through the Accounting and Finance office.[3]

3. Commerce Business Daily (CBD) on Electronic Bulletin Board. Presently eight different electronic telecommunication companies provide the CBD on an Electronic Bulletin Board [4]. The first company started the EBB service of the CBD in September 1982 and the use of the service has continued to grow at a very fast rate. The revenue to the Department of Commerce (DOC) has grown from zero in 1982 to over $500,000 in 1986. This money is paid to the DOC by companies providing this service to government contractors.

C. SYSTEMS IN THE DEVELOPMENTAL STAGE.

A sampling of the automated systems now in the developmental stage include the following:

1. Computer Aided Logistics Support (CALS).

The CALS idea, basically, is to permit transfer of technical data to industry from DoD, among DoD subsets and between companies. It will be a kind of perpetual open line to transfer in real time the kind of data presently published in "Tech" manuals.
"Tech data" includes a wide range of information, e.g. parts lists, maintenance data, military specifications, nomenclatures, etc. Just to move all that data around on a computer/communications network raises all kinds of problems: security of data transmission, individual company rights-in-data, Freedom of Information Act incursions, need-to-know, etc.

The principal DoD objectives for CALS are justifiable enough: influencing weapon systems design to produce systems that are more reliable, easier to support and maintain; real-time distribution of logistics support product delivery, maintenance; reducing technical data paperwork needed to develop, acquire, support and maintain military weapon systems; more efficient procurement of spare parts; and, throughout it all, reducing logistics support costs through a large, up-front investment, probably, in software, mainly.[5]

2. Standard Army Automated Contracting System (SAACONS).

SAACONS is a microcomputer based system using enhanced commercial type software designed to support Army installation contracting offices. It will significantly increase productivity and efficiency in operations by automating the entire spectrum of contracting functions, contract document processing, preparation of purchase orders, tracking all contractual actions and preparing management reports. This total ADP package will reduce procurement administrative lead-time, contracting backlogs and the use of extensive overtime while increasing quality of controls and contract administration.[6]

3. Integrated Procurement System (IPS).

IPS is an automated information system being designed and developed by the Army Materiel Command (AMC) for its commodity major subordinate commands (MSCs). Its goal is to improve the efficiency of Army Procurement at the wholesale level by automating the procurement process, thus reducing administrative lead time and procurement backlog.[7]

D. **SUMMARY.**

In addition to these Army systems there are many Air Force, Navy and DOD systems both in actual use and in the developmental stage. As with the Army systems these systems have proven beneficial in the operation of each office that uses them and also to the customers supported. The next few years could see these systems refined to such a point that many of the procurement processes could become completely paperless.

CHAPTER IV

ANALYSIS OF CONCEPT

A. INTRODUCTION.

This study focuses on the feasibility of using EBB, EMS and on-line terminal conferencing as a means of upgrading (making it faster and more open) the flow of information between the Government and its contractors. This chapter examines the main ideas taken from Mr. Vorhies' suggestion. Additionally, it analyzes possible outcomes (both negative and positive) of using electronic telecommunication in U.S. Army procurement actions.

B. CONCEPT OF SUGGESTION.

Mr. Vorhies' suggestion can be broken down into three main areas. The first area is the use of the EBB to post or advertise (just as the CBD now does, except electronically) the items or services that the Army is interested in procuring. This will allow all interested parties to access the EBB in real-time and find areas in which they might be interested in bidding on. The next area is to electronically connect contractors and contracting offices by means of an EMS and allow the contractor to send an electronic message to the contracting office requesting the RFP. This EMS would be interactive and allow questions and answers to pass between the contractors and the contracting office. The third area would be private on-line terminal conferencing among Army procurement players to allow them to keep better informed of ongoing procurement actions. This service would be limited to interested Army procurement players and enable them to communicate in real time instead of after-the-fact.

C. ANALYSIS OF SUGGESTION.

1. Establish an EBB to allow equal and faster access to contractual information for all potential contractors.

The use of the CBD on EBBs is presently being accomplished by no less than eight different companies. The first company began providing this service in September 1982 and reports that each year more and more corporations sign up to use this electronic service and that revenues continue to increase. This continued increase in use by more and more corporations indicates an acceptance to use the EBB and an unwillingness to wait for the hard copy CBD to find potential jobs (contracts). The cost of using the CBD on the EBB is approximately $60 per hour of connect time and a one-time cost (approximately $25) for a password. Presently contractors must pay $243 per year for the hard copy CBD. The Department of Commerce is paid revenues, for providing the CBD to each company, each time a contractor logs on and uses the services to look for potential contracting jobs.

2. Establish EMS between the bidders (contractors) and contracting offices to allow faster two-way communications.

The use of EMS between the contractors and the Government would greatly enhance the flow of information by reducing the waiting time for regular mail service. It is not uncommon for contractors to make special trips to contracting offices (or use special one day mail services like Federal Express) to decrease the waiting time for answers to questions or for the initial RFP. This general unwillingness to wait for replies and instead make an extra effort (and sometimes pay more) indicates an interest in a faster means of communication. The EMS can allow the user to make information immediately available to an individual, or a group within a single location, across the nation or around the world. Presently many different commercial companies provide this service to private industry to increase their communication efficiency and allow them to have virtually instantaneous contact with other company offices or customer offices.

3. Establish private on-line terminal conferencing among Army procurement players to keep them better informed of ongoing procurement actions.

The implementation and use of private on-line terminal conferencing could enhance the information flow between Army procurement people. This electronic service allows the user to use his terminal and interactively communicate with as many subscribers as he wants. By using this service, the users can hold meetings, discuss problems or upcoming issues and send information or draft RFP, etc. to interested parties. Many Army offices today use Local Area Networks (LAN) to pass and discuss information between interested parties. Presently the U.S. Army Forum Office (DACS-DMF) operates a computer teleconferencing system with over 1200 participants on 39 different subnets.[8] The Army Forum office uses these nets to enhance the way the Army shares information. This system uses both in-house (DDN) and commercial resources.

4. Provide the RFP in summary or full text to potential contractors by EBB and EMS.

This area should be expanded to say - summary or full text RFPs and full text contractor proposals (CP). The summary RFPs are already being provided to the potential contractors by the EBB by the eight electronic communication companies mentioned above. The important question becomes should we expect to be able to send full text RFPs and full text CPs with the large number of pages, technical data, drawings and color pictures? Admittedly, some full text RFPs and CPs could and should be sent electronically because of their small size, etc., but generally this will be the exception rather than the rule. At present it is cost prohibitive to send all full text RFPs and CPs electronically because of their size and special data, but at some point in the future with the new developments this capability should become a reality.

5. Provide pre-bid information to potential contractors and allow questions and answers between contractors and contracting offices by EBB and EMS.

The use of the EBB and EMS to provide information to all concerned contractors would greatly speed up the process of questions and answers on draft and final RFPs. The use of the EMS to facilitate the questions and answers could eliminate the need for pre-bid conferences. This in itself could be a big cost savings. After the contractors received the RFP they would ask questions using the EMS. After all questions are received from the contractors (at a certain cut off time) the questions would be staffed and answers prepared. These answers and clarifications/amendment would then be sent out electronically to each participating contractor's mailbox. This would eliminate all the time that is normally used in mailing hard copy questions and answers. It would eliminate the need for contractors to attend pre-bid conferences and bring experts in each area with them to the conference. It would not eliminate any time used in staffing, researching, and drafting answers to each question.

D. ANALYSIS OF ISSUES.

1. Technological. Presently the technology exists to implement these telecommunication services within the U.S. Army Contracting offices. The present technology will allow authorized users (contractors with authorized passwords) anywhere to access an EBB and look at areas of interest to their company. It will also allow questions/answers/etc. regarding the RFP or proposals to be sent by EMS between interested companies and the contracting office. Presently because of cost and technical data, etc., it is not feasible to send full text RFPs and proposals by EMS. The on-line terminal conferencing for Army procurement players can also be accomplished with present day technology.

2. Contractual/Legal. Initially using these services will have no effect on the legal aspects of contracting because during the first stage there will always be hard copy of proposals and signed contracts. After these services have become the accepted process and all communication is done by this process, there will be a need to accept electronic signatures and use all electronic communications just as hard copy communications are used today. At some point there will have to be an adjustment to the contracting regulations to accommodate these changes.

3. Managerial. The management of an electronic communication system should be close to the same as the management of the present day system. Just as the mail is checked daily now - the electronic mail will be checked daily once this system is implemented. Questions will be researched, answers typed on the system, and sent to each interested contractor. Training should be minimal because most offices presently have some automated equipment on hand and trained people to use it. The main training requirement will be on the use of the EMS. The managerial problems that could arise will come because of the resistance to change that most people possess. This resistance to change could cause some problems during the transition phase in that people do not like to change the way "it has always been done".

4. Security. The electronic communication system can provide the same amount of security as does the present system. With these communication systems using passwords and multi-level passwords there should be no problem with unauthorized users. Regular users will be assigned a password and will most likely sign on at a certain location and time daily to receive their mail. Passwords can be changed as often as necessary. There are also networks in operation today that can handle classified material that must be

sent to contractors. The commercial company providing the electronic mail service will act as the system administrator and ensure that only authorized users are allowed on the system.

5. Economic. Most of the large companies and large contracting offices that are involved in the larger acquisitions already have the equipment and resources available to employ these telecommunication services. The expense will be at the smaller contracting offices and small business offices that do not have the equipment to use the services. Each office (Government and contractor) must have a PC with storage device and a printer, communication software, a modem and access to a phone line. This should be an initial investment of approximately $3,000 for the small businesses. This initial investment should be able to be recovered by using this equipment for more than just electronic communications. The businesses and Government offices that are required to purchase this equipment will be able to use this microcomputer system for other office operations and substantially reduce the impact of the initial investment. Most Government procurement offices presently have or are implementing automated systems 'hat require these same types of equipment. Most of these system costs will be borne by other systems already in use or in the planning stage.

Even though the use of the electronic communication services will initially be somewhat more expensive to both the government and the contractors, there are many areas in which it will save both time and money. This service will reduce the amount of money spent on blank forms, postage, travel and printing replies, etc. to send to each of the contractors. The main advantages of this service are the savings in time and the more open communication chain that will be established. These are both intangible savings/benefits which will result and should not be overlooked.

E. EFFECTS ON SMALL BUSINESS.

The most negative effect of using these electronic communication services would fall on the small businesses. Many times the smaller firms or subcontractors do not have the required hardware to take advantage of this type of service and may not want to make the initial investment to purchase the required equipment. This problem would have to be handled by setting some cut off date in the future that would require all businesses that want to do business with the U.S. Government to have the required equipment. A precedence for this was set in the 60s when the government required bar coding to be used by all contractors doing business with the U.S. Government.

During the interim both electronic communications and hard copies would have to be used. This strain would be lessened if this electronic system were implemented in stages and used only on large contracts (and used only with prime contractors) during the initial stages of implementation.

In talking with DA, AMC, and TRADOC Small and Disadvantaged Business Utilization offices, it was agreed that not even small business can afford to stay out of the electronic communication business but it is difficult to determine how long it should be before all businesses should be required to have the capability.

F. SUMMARY.

The concept of using the EBB, EMS and private on-line terminal conferencing within the initial procurement process is feasible with today's electronic telecommunication technology. There are many Army offices and private companies presently using some of these services. The use of these services will reduce the time spent on each procurement action and allow that time to be better used in other stages of development. These three electronic telecommunication services could be the initial base of the completely electronic paperless procurement system of the future.

CHAPTER V

ALTERNATIVES

A. INTRODUCTION.

In August 1982, the Assistant Secretary of the Army (Research, Development, and Acquisition) tasked the DA Acquisition Management Review Agency (AMRA) to conduct an assessment of current ADP capabilities at contracting activities.[6]

In December 1984, the Conference Committee tasked the Department of Defense (DOD) to provide a plan that improves substantially the computer capability of the Military Departments and the Defense Logistics Agency to store and access rapidly the data that is needed for the efficient procurement of supplies. Congress has attributed many of the problems associated with spare parts management to the lack of modern systems and has required similar reports on efforts to modernize other logistics support systems.[9]

These are examples of the many initiatives that the DOD and DA have undertaken to ensure that the procurement system continues to take advantage of present day technology. These initiatives were developed to guide the automation efforts of the acquisition agencies and to provide a plan for the use of automated procedures within procurement.

With the myriad of electronic telecommunication services available through both the DOD and commercial companies, the decision about what services and which resources should be used would be a difficult one. This decision is only compounded when hardware and software constraints are considered. For this reason, different alternatives for testing the concept feasibility must be looked at and evaluated. These alternatives for testing may not necessarily be the same alternatives that will be identified during a formal economic analysis if a decision is made to implement these services.

B. ALTERNATIVES.

There are four possible alternatives: Alternative I, status quo; Alternative II, use all in-house (DOD) resources; Alternative III, use all commercial (private companies) resources; and Alternative IV, use part in-house and part commercial resources. All of these alternatives can satisfy the requirement - at present. The important issue is which alternative is most able to satisfy the growing requirements and is the least disruptive to the present system while preparing for the future of automated procurement processes.

1. Alternative I (status quo). This alternative is the existing standard operating procedure as is now used in the procurement arena. With the increasing number of contracts let annually and the increases in dollars spent each year, it is apparent that something needs to be done to ensure that each procurement action receives proper attention and is completed in a timely manner. Any time saved in the process could be used in other procurement actions. This alternative is presently satisfying the requirement but is becoming increasingly cumbersome. The point that needs to be made is - will it continue to satisfy the increasing requirements in the future without continually increasing backlog and/or the manpower/overtime resources?

2. Alternative II [Use All In-House (DOD) Resources]. This alternative is to implement the electronic telecommunication services within contracting and to use only DOD resources. Presently the Defense Data Network (DDN) has capabilities to provide both EBB and EMS to its users. With present resources (manpower and equipment) these services are very limited. To provide all of these services to the procurement community it would be necessary to add both personnel and equipment to meet the increased demand. This alternative would

use presently available Government resources (and develop additional in-house capabilities) to provide the EBB, EMS and on-line terminal conferencing to the procurement community.

3. Alternative III [Use All Commercial (private companies) resources]. This alternative is to implement these services within contracting and use only resources of a private company (or companies) to provide these services. This alternative does not take advantage of all in-house resources that are presently in place and providing good service to the Army community. This alternative would use all commercial companies to provide the EBB, EMS and on-line terminal conferencing to the procurement community. No in-house (DOD) resources would be used to provide these electronic communication services.

4. Alternative IV (Use Part In-House and Part Commercial Resources). This alternative is to use resources now in place in-house (DOD) and contract for commercial companies to provide the other services as required. This would take full advantage of present in-house resources without overburdening the present system. It would also use private electronic communication companies to provide expertise, system maintenance and system management responsibilities over the bulk of the services. This alternative would use DOD resources to provide the on-line terminal conferencing to the Army procurement players. The commercial EBBs presently in use would continue to be used and the EMS would be developed and provided to the procurement community by commercial companies using their expertise and experience.

C. ANALYSIS.

Of the four alternatives, number four takes the most advantage of present in-house and commercial resources. This alternative would take the least time and development to implement. It is possible to use the electronic CBD on the EBBs at present to satisfy the first part of the suggestion. There are no

advantages to creating an in-house EBB to publish the RFP synopsis/summary and not only does this EBB system not cost the government any money, but is paying the Department of Commerce over $500,000 per year.

The next area is the use of EMS for communication between contractors and contracting offices. This is an area that will have to be developed either in-house or commercially. This service is the most important one because it will handle the bulk of all communications and will take the most resources. Currently the in-house resources are not adequate to satisfy this requirement of manpower and equipment limitations. Commercial electronic communication companies have the expertise, equipment, and experience required to provide this service to the U.S. Army.

The last area is the use of private on-line teleconferencing among Army Procurement players. In-house resources are adequate to provide this service to the contracting community. Adding this service to the in-house systems would not be expected to require any additional resources.

All four alternatives can presently satisfy the requirements within procurement. Alternative 1 does not take into consideration the ever increasing workload or the technological advances made in electronic communication. The other alternatives will both satisfy the workload of today and prepare for the increasing workload of the future.

Because alternative four takes the most advantage of present operating communication systems, it is the one that should be used to test the feasibility of these electronic telecommunication services within the procurement process. Using the EBB already in operation and the on-line terminal conferencing offered by DOD resources leaves only the development of the EMS prior to the actual test.

D. TESTING.

Before a final decision is made to implement procedures to use electronic communication services within the procurement process it is imperative that these procedures be tested on actual procurements. The test should consist of sufficiently complicated and involved buys where there are areas that considerable "waiting time" could be saved. The test should include at least three different procurements, one in each of the following areas: (1) hardware, (2) service, and (3) research and development and start at the draft RFP stage.

The actual test should be conducted by one of the more "automated" buying commands within AMC that will have the three types of buys pending. This will help ensure that equipment, personnel and training expenses are kept to a minimum because these commands already have many automated processes and experienced computer/word processing personnel on hand.

The Competition Advocate General's Office (CAG) and the industries involved in the test should evaluate the process as to its usefulness and provide lessons learned.

The test should take full advantage of all current in-house and commercial operations that will support these telecommunication services. The current operations that will support these services are:

1. The CBD on the EBB provided by eight different commercial companies.

2. The Defense Data Network that provides different areas of telecommunication services to Army players.

CHAPTER VI

CONCLUSIONS, RECOMMENDATIONS AND IMPLEMENTATION PROCEDURES

A. INTRODUCTION.

The use of present day electronic telecommunication services today can be compared to the use of the telephone years ago. It is a means of gaining better and faster access to expertise while allowing the user to work closely with distance associates. It also allows the user to spend less time and money on travel without having to wait for hard copy information. This faster means of sending and receiving bulk information is an area that should not be overlooked in the contracting arena.

B. STUDY CONCLUSIONS.

1. The electronic telecommunication suggestion for contracting is feasible and should be considered for adoption. While a complete economic analysis cannot be done at this time, evidence supports the feasibility of such an effort.

The electronic telecommunication services presently available and the technological advances that are taking place daily in this field make it very important to test their use within Army contracting. These services are at an advanced enough stage to provide the fast, efficient communication between the U.S. Army contracting offices and the government contractors that is needed. The use of these communication services within today's procurement process is feasible and they should be tested for their applicability to the total procurement process.

The implementation and use of these electronic communication services may be the building block on which the completely paperless contracting system of the future is developed.

There is a need to reduce the amount of waiting time spent on each action. This would in turn reduce the amount of time spent on each procurement and put the end product in the customer's hand faster. There is also a procurement need to have more open, two-way communications between the suppliers and the government. These needs are based on the ever increasing procurement workload and the increasing time it takes to get a finished product to the customer.

2. The alternative of using part in-house and part commercial resources (number 4) to provide these services shows the most promise for the Army application. This alternative takes full advantage of already developed and operating procedures. This should save both development time and cost.

3. The U.S. Army should consider developing a prototype and testing it.

C. RECOMMENDATIONS AND IMPLEMENTATION PROCEDURES.

It is recommended that Mr. Vorhies' concept be tested for use within the initial procurement process.

Actual testing of these telecommunication services, using both in-house and commercial resources, must be conducted by an organization that has the required equipment and is experienced in its use. This will ensure that costs are kept to a minimum and that full advantage is taken of trained, experienced, contracting personnel.

The test should start with the development of the draft RFP and continue until the contract is awarded. It should include at least three "involved" procurements, one in each of the following areas: (1) hardware (2) service, and (3) research and development.

The test should use presently operating commercial and in-house telecommunication resources to keep the development time and cost to a minimum.

These electronic telecommunication services need to be broken down into three areas. The first is the use of the present EBBs to provide the CBD to all contractors. The next area is the use of the commercial EMS to provide fast two way communications between the government and its contractor. The last area is the use of DOD operated on-line terminal conferencing for Army procurement players.

D. SUMMARY.

The use of electronic telecommunication services is a means of upgrading the procurement system with present day technology. These services have the capabilities to increase the efficiency of each contracting office and speed the flow of information - thereby providing better products in a shorter time. This is an area that should neither be overlooked nor put off until "people are ready to accept it."

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Timely, free flow of information between buyer and seller has historically been a problem in government procurement actions. Since there is a requirement to make information available to an individual, a group within a single location or a group across the nation, in a timely manner, it is very important that the government consider taking advantage of the latest communication technology. Present day communication technology will allow the user to gain better and faster access to expertise and work closely with distant associates while spending less time and money on travel.

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In a recent Army Competition Conference (26 June 1986), the need for incorporating present day communication technology into the procurement process was highlighted. One of the panel members (Mr. Vorhies of E-Systems, Inc.) presented a paper suggesting the use of electronic bulletin boards (EBB), electronic mail service (EMS) and on-line terminal conferencing as a means of upgrading the flow of information between the Government and the contractors.

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